

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today
(1) was not written for publication in a law journal and
(2) is not binding precedent of the Board.

Paper No. 24

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte THOMAS A. NELSON
and JAMES S. RUSCYK

Appeal No. 1996-2050
Application 08/146,779

ON BRIEF

Before PAK, WARREN and LIEBERMAN, *Administrative Patent Judges*.

WARREN, *Administrative Patent Judge*.

Decision on Appeal and Opinion

This is an appeal under 35 U.S.C. § 134 from the decision of the examiner finally rejecting claims 1, 3 through 5 and 8.¹

We have carefully considered the record before us, and based thereon, find that we cannot sustain the ground of rejection of claims 1, 3 through 5 and 8 under 35 U.S.C. § 103 over Thiele et al. (Thiele) in view of Lux et al. (Lux).² The examiner has framed the initial but dispositive issue with

¹ Amendment of March 20, 1995 (Paper No. 12).

² These references are listed at page 3 of the answer.

respect to the applied prior art in this appeal by finding that, *prima facie*, one of ordinary skill in this art would have modified the apparatus of Thiele by exchanging the “hard rubber or other like semi-resilient material” surfaced coating rolls thereof (e.g., page 1, left col., lines 44-45) with the non-woven surfaced coating rolls disclosed in Lux, which reference teaches that such fabric surfaced coating rolls “are superior and have a longer lifetime than the rubber” (answer, pages 3-4; see Thiele, page 1, left col., lines 43-45; see Lux, col. 2, lines 30-36, with col. 1, lines 27-34).

Appellants submit, *inter alia*, that “neither Thiele nor Lux disclose a motivation for making such a combination” (brief, page 10) because “there is nothing in Thiele which would lead one to use anything other than a roller of semi-resilient material,” such as rubber (*id.*, page 13). They further point out that while Lux “discusses the use of rubber rolls for treatment of metal sheet or metal coil, and the benefit of wear resistance by using non-woven rolls . . . metal sheet or metal coil,” Thiele “relates to an apparatus for coating paper web (Col. 1, lines 3-7), where damage to the rubber is unlikely” (*id.*, page 14).

The examiner responds that while Thiele teaches “an apparatus for coating sheet material . . . specifically . . . paper, one of ordinary skill in the art *knows* that the Thiele apparatus would coat any sheet material whether paper, plastic, metal, etc. via the use of rubber applicator rolls” or “some other material having some degree of resiliency” (answer, page 6; emphasis supplied). Thus, the examiner contends that “[w]hile Thiele et al do not explicitly teach using non-woven applicator rollers, it was known in the coating art, at the time the invention was made, to use non-woven applicator rollers in place of rubber rollers to coat sheet material because the non-woven material lasted longer than the rubber as evidenced by [Lux]” and, therefore, it would have been obvious to used non-woven rollers of Lux in place of rubber applicator rollers of Thiele “since the non-woven rollers have 1) some degree of resiliency and 2) have a longer lifetime” (*id.*).

We find that Thiele does provide an apparatus for coating paper in which the surfaces of the coating rolls are preferably “a surface layer of medium hard rubber or other like semi-resilient material” (page 1, left col., lines 43-45) so that the

coating material applied to the *surface* of [the] coating rolls **2** and **3** is *smoothed* and the *films carried on said rolls* have *uniform thickness*. The [paper] web **1** in passing between the rolls

2 and **3** *picks up said films* on each surface thereof, the *films being laid thereon in their final form*. [Page 2, left col., lines 8-15, and right col., lines 44-46; emphasis supplied.]

Thus, we find that one of ordinary skill in this art would have reasonably inferred from Thiele³ that the purpose of the semi-resilient surface for the coating rolls of the apparatus of Thiele is to form, maintain and transfer a smooth film of uniform thickness to the surface of the paper sheet.

We find that Lux discloses that the purpose of surface treating rolls in apparatus used in the manufacture of metal sheet or metal coils is “to *squeegee* the surface of the metal sheet or to *apply . . . solutions . . . to . . . the surface of the metal sheet*” and that while “[r]ubber rolls have been used for this purpose for a long period of time,” “rolls made of compacted sheets of fabric” are “superior to rubber rolls” and have “*improved squeegee action, resistance to damage induced by the coil edge or splice, and useful life*” (col. 1, lines 12-34; emphasis supplied). Lux further discloses that “[w]hile the fabric rolls typically have a longer useful life than the rubber rolls, they are . . . susceptible to damage when exposed to very harsh chemical environments” created in the manufacture of the metal sheets (col. 1, lines 35-53). Thus, Lux discloses a particular “polyolefin fiber roll that is resistant to physical damage and resistant to . . . harsh aqueous chemical environments,” which rolls “*effectively squeegee liquids from the surface* of a metal strip even after being physically damaged,” even “if needed, dressing the sides of the compacted pile to form a smooth cylindrical surface” (col. 2, lines 30-36, and 58-59; emphasis supplied). Lux teaches that “[a]fter compaction of the discs and formation of the roll, surface dressing is usually required to obtain a *relatively cylindrical smooth surface . . . usually . . . by use of conventional devices . . . such as by use of a grinder, skiving knife or other means*” (col. 4, lines 17-22; emphasis supplied; see also col. 9, lines 16-22). Lux demonstrates the performance of a dressed, that is, smoothed, roll with respect to squeegeeing efficiency by “continuously squeegee hot water from the surface of a mating steel roll” (col. 9, lines 25-51). Thus, we find that Lux would only

³ In evaluating the teachings of Thiele and Lux, we must, of course, consider the specific teachings thereof and the inferences one of ordinary skill in this art would have reasonably been expected to draw therefrom. *In re Fritch*, 972 F.2d 1260, 1264-65, 23 USPQ2d 1780, 1782-83 (Fed. Cir. 1992); *In re Preda*, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968). In evaluating the relevance of the various teachings of these references, we must presume skill on the part of those of ordinary skill in this art. *See In re Sovish*, 769 F.2d 738, 743, 226 USPQ 771, 774 (Fed. Cir. 1985).

have suggested to one of ordinary skill in this art that fabric rolls are used for *squeegeeing action* to *remove* material from the metal strip as there is *no* express statement in or inference that may be drawn from this reference that the fabric rolls disclosed therein or those known in the prior art are used to *apply* solutions to the surface or a metal sheet.

We note that appellants acknowledge the following prior art in their specification:⁴

Efforts to achieve uniform coating of the medium on the [metal] strip and avoid buildup of the medium have included the use of different materials and difference surface configurations or textures. Different materials tried have progressed from rubber, to nylon, to urethane and more recently to composite “non-woven” rolls comprising non-woven synthetic fiber discs that are stacked and/or bonded together, with a tough, yet flexible binders resin.

The use of non-woven rolls in place of rubber, urethane or felt rolls in ringer, oiler, tension/bridle or support roll applications has been known for at least 10 years. Unlike dense, closed surface rollers such as those made of rubber or nylon, the non-woven rolls such as made by use of 3M material for example in various sizes and materials offer a *high percentage void volume* that provides *a degree of absorption which aids in squeegeeing and tension functions* during the rolling process.

One of the *problems* associated with the use of the direct rotary method particularly on *non-woven rolls* has been “*wet-edges*.” . . . The medium builds up in these areas and forms annular bands on the porous roll faces. At the exit side of the roll bite, some of this *medium ends up being redeposited on the strip*. [Page 3, lines 12; to page 4, line 14; emphasis supplied.]

Thus, we find that appellants admit that while non-woven surfaced coating rolls have been used to apply coatings to metal strips, such coating rolls have “voids” which “aids in squeegeeing” but which also causes “wet-edges” that result in redeposited medium, that is, a non-uniform coating.

We are of the opinion that the term “material” in appealed claim 1 encompasses “paper” as that term is used in Thiele and thus the apparatus of this reference is applicable prior art. Even though it would appear that the apparatus of Thiele could be modified by the substitution of a non-woven surfaced roll, such as a non-woven surfaced roll as disclosed in Lux or as otherwise known as admitted by appellants, for a rubber or other semi-resilient material, that fact alone does not make a *prima facie* case of obviousness in the absence of a suggestion to one of

⁴ It is axiomatic that our consideration of the prior art must, of necessity, include consideration of the admitted state of the art. *In re Nomiya*, 509 F.2d 566, 184 USPQ 607 (CCPA 1975).

ordinary skill in the art to do so. *See, e.g., In re Laskowski*, 871 F.2d 115, 117, 10 USPQ2d 1397, 1398 (Fed. Cir. 1989), and cases cited therein; *cf. In re Siebentritt*, 372 F.2d 566, 152 USPQ 618 (CCPA 1967) (express suggestion not necessary to interchange *equivalent* means). Such a suggestion can come from knowledge generally available to one of ordinary skill in this art. *See, e.g., Ashland Oil, Inc., v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 297 n.24, 227 USPQ 657, 667 n.24 (Fed. Cir. 1985). The examiner alleges that one of ordinary skill in this art “*knows* that the Thiele apparatus would coat any sheet material whether paper, plastic, metal, etc. via the use of rubber applicator rolls” or other resilient material (answer, page 6; emphasis supplied; *see supra* p. 2). We are of the view that the judicial notice the examiner has thus taken of specific knowledge in the art should have been supported by evidence or scientific reasoning because it is not at all apparent on this record that one of ordinary skill in this art would find that the apparatus of Thiele disclosed for the coating of paper *per se* would be capable of coating, *inter alia*, metal sheet. *See In re Ahlert*, 424 F.2d 1088, 1091-92, 165 USPQ 418, 420-21 (CCPA 1970). Furthermore, the examiner’s finding with respect to knowledge in the art was made for the first time in the answer and we find that appellants were thus not amply apprised of such finding so as to have the opportunity to challenge the same. *Ahlert*, 424 F.2d at 1092, 165 USPQ at 421; *cf. In re Hoch*, 428 F.2d 1341, 1342 n.3, 166 USPQ 406, 407 n.3 (CCPA 1970). Indeed, this finding by the examiner is different than his finding based on the teachings of Thiele and Lux which appellants traversed by pointing out that Thiele “relates to an apparatus for coating paper web” (brief, page 14). Similarly, we find no disclosure in Lux, which involves metal sheet material, or in admissions in appellants’ specification, cited above, which also involve metal sheet material, any support for the examiner’s statement that “it was known in the coating art, at the time the invention was made, to use non-woven applicator rollers . . . to coat sheet material,” which does not specify the nature of the “sheet material” (answer, page 6).

Furthermore, even if it were assumed that the paper coating apparatus of Thiele could be used to coat metal sheet, the examiner has not established by evidence or scientific reasoning that one of ordinary skill in this art would have interchanged the semi-resilient surfaced coating rollers of Thiele, on which is formed a *smoothed film of uniform thickness* that is then *picked up* from the surface of the

roller in *final form* and *laid* on the surface of the paper sheet, with non-woven rolls, that have “voids” which “aids in *squeegeeing*” the surface of the sheet material in order to apply a *solution* thereto to obtain a *non-uniform coating*, as taught by Lux and acknowledged by appellants. Certainly, the examiner has provided no evidence or scientific reasoning on this record why this interchange of rolls would have been made by one of ordinary skill in this art in the apparatus of Thiele where the sheet material coated is *paper*.

Accordingly, it is manifest that the only direction to appellants’ claimed invention as a whole on the record before us is supplied by appellants’ own specification. *In re Fine*, 837 F.2d 1071, 1074-76, 5 USPQ2d 1596, 1598-1600 (Fed. Cir. 1988); *In re Dow Chemical Co.*, 837 F.2d 469, 473, 5 USPQ2d 1529, 1531-32 (Fed. Cir. 1988).

The examiner’s decision is reversed.

Reversed

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| CHUNG K. PAK |) | |
| Administrative Patent Judge |) | |
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| CHARLES F. WARREN |) | BOARD OF PATENT |
| Administrative Patent Judge |) | APPEALS AND |
| |) | INTERFERENCES |
| |) | |
| PAUL LIEBERMAN |) | |
| Administrative Patent Judge |) | |

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Thomas K. Stine
Wallenstein, Wagner & Hattis, LTD.
311 South Wacker Drive, 53rd Fl.
Chicago, IL 60606